

Fishery Industrial Technology Center (FITC) University of Alaska Fairbanks

Ongoing Activities, November 2010

The FITC faculty and staff are launching this monthly update for the SFOS Dean, FITC Policy Council members, UAF FITC task force and others interested in the teaching, research and service provided at FITC. We hope this is helpful. Please contact any of us with questions.

News

Paula Cullenberg, UAF Marine Advisory Program Leader, has been appointed as Interim Director of FITC beginning December 5th until approximately June 30th by SFOS Interim Dean Mike Castellini. You can reach her at paula.cullenberg@alaska.edu or by calling 274-9692.

Kate Wynne hired Bree Witteveen as a Research Professional. Bree, a former graduate student and then Post-Doc for Kate is working to describe the foraging ecology of whales (humpback, fin, and gray) and their interspecific interactions within the Kodiak marine ecosystem.

Upcoming

A task force of Kodiak community members, organized by Rep. Austerman, will be meeting at the FITC on Friday, December 17th at 3 pm to discuss future plans for FITC.

Registration is ongoing for **"Introduction to Fisheries Utilization"** Fish 261, to be offered by FITC faculty members, Scott Smiley and Brian Himelbloom during Spring semester, 2011. This is a distance-delivered video conference class focusing on how Alaska's fisheries resources are sustainably exploited, made into high quality and safe human foods and sold in the context of global markets. It is required for students receiving a BA in Fisheries, and is open to the public statewide. To register, contact Scott Smiley at 486-1513 or smiley@sfos.uaf.edu.

Better Process Control School will be taught by Chuck Crapo in Anchorage at the MAP office, Jan 31-Feb2, followed by **Hazard Analysis Critical Control Point Workshop (HACCP)**, Feb 3-4, and **Sanitation** on Feb 5. <http://seagrant.uaf.edu/map/haccp/index.html>



HACCP class in Kodiak, Fall 2010, taught by Chuck Crapo

The **Kodiak Marine Science Symposium**, KAMSS, the first integrated science conference linking regional research with community members, will be held in Kodiak from April 9-12. KAMSS is being organized by MAP faculty member, Kate Wynne, and is sponsored by Alaska Sea Grant and many other organizations and agencies. Abstracts for papers and posters are now being accepted. <http://seagrant.uaf.edu/conferences/2011/kamss/index.php>

Teaching (teaching and student support by FITC faculty)

This semester, there are 3 graduate-level classes being offered at the FITC, listed in the UAF catalog as Food Science and Nutrition classes, and in support of the students at FITC studying for their Master's.

Chuck Crapo and Brian Himelbloom are teaching FSN661 **Seafood Processing and Preservation** (3 credits). Alexandra Oliviera, and affiliate faculty members, Peter Bechtel and Leo Pederson are guest lecturers in the class. Chuck and Alex Oliviera are team teaching FSN663 **Quality Control Systems and Sensory Evaluation** (3 credits). Brian Himelbloom is co-teaching FSH 692 **Food Science Seminar** (1 credit) with Alexandra Oliviera.

Student Profile (there are 8 graduate students studying at FITC. We will profile 2 each month)

Huseyin Biceroglu, studying for his Master's degree is from Izmir, Turkey. He has been in Kodiak for almost a year and is working under Scott Smiley, Quentin Fong and Peter Bechtel. His project involves establishing the optimal conditions for commercial drying of salmon heads to be potentially sold in Africa. Huseyin has an undergraduate degree from Ege University, Turkey, in Seafood Science and Processing Technology. Huseyin recently was an excited fan of the Turkish National Basketball team when they came in second to the US in the world cup of basketball. Huseyin is also an avid soccer player and would welcome having games televised in Kodiak. You can reach him at



hbiceroglu@alaska.edu

Lei Guo writes, "My work at FITC focuses on forage fish availability to upper trophic level predators in coastal waters of the Kodiak Archipelago. The objectives are to assess forage fish feeding habits, lipid and energy content, and distribution on spatial and time scales. This is the core of my PhD and I hope to graduate this month. The results of my dissertation are intended to be integrated with studies on upper trophic level taxa in the Kodiak region. I hope to continue with my advisor, Kate Wynne, as a post-doc starting in March. I received my BS in marine biology from Ocean University of China (Qingdao, China) in July 2003 and joined SFOS as a PhD student in Marine Biology in September 2003." Contact Lei at guo@sfos.uaf.edu



Research

Reducing energy costs to the state's seafood processing operations is the focus of a new two-year project to perform energy audits and develop energy conservation measures led by Chuck Crapo and Cordova MAP faculty member, Torie Baker. The project is funded by the Alaska Energy Authority and is a partnership with the Institute of Northern Engineering at UAF. This month, Chuck assisted in the preparation of reports to Ocean Beauty Seafoods and Copper River Seafoods summarizing their first audits of these two Cordova plants. He also met with Chris Spengler of Westward Seafoods, Dutch Harbor to discuss energy audits and seafood processing waste improvements.

Quentin Fong, Chuck Crapo and MS student Lale Gruer is working with Kodiak seafood company, Pickled Willies www.pickledwillies.com to develop a pickled seafood product. This month, Lale conducted a taste test panel for the company analyzing preference attributes such as sweetness, acidity, and color etc., as well as price point (willingness to pay) for the product in development. The results will assist Pickled Willies to fine tune their product and business/marketing plan. Lale is from Turkey and her graduate program is supported both by USDA CSREES and Alaska Sea Grant funding.

Alex Oliviera has two graduate students working in her lab, Trina Lapis and Katie Brenner. Trina and Katie are currently working on research related to fisheries byproducts. They are also working with Alex to assemble results of salmon fatty acid comparisons done on samples collected in Bristol Bay.

Kate Wynne conducted a monthly aerial survey of marine mammals in northern Kodiak waters for her Gulf Apex Predator (GAP) research program. She also conducted an aerial survey of harbor seal haulouts on Tugidak Island for ADFG to determine winter use of Critical Habitat on the island.

Peter Bechtel, Scott Smiley and others contributed to a new NOAA document "The Future of Aquafeeds" currently out for public review by the NOAA Aquaculture Program. Their article is "The Potential of Fish Processing Byproducts Takes Guts." http://aquaculture.noaa.gov/news/feeds_rept_comment.html

Alex submitted a revised manuscript to the Journal of Aquatic Food Production Technology: Oliveira ACM, Bechtel PJ, Morey A, Lapis TJ, Brenner K. *Chemical composition of spiny dogfish (*Squalus acanthias*) harvested in Alaska*. She also submitted the final revised text for a book chapter (publication scheduled for 2011): Gonçalves AA and Oliveira ACM. Defumação de pescado. In: *Tecnologia do Pescado: Ciencia, Tecnologia, Inovação e Legislação*. Gonçalves AA (Editor). Editora Ateneu, São Paulo, SP, Brasil.

The FITC faculty and graduate students submitted a number of abstracts for consideration as presentations or posters at the 2011 Annual Institute of Food Technologists meeting. Abstracts related to: drying pink salmon heads; enzyme reaction in fish byproducts; membrane filtration of stick water, antilisterial testing of liquid smokes and nutritional quality of wood-smoked fish sausage from pink salmon.

Brian Himelbloom published a chapter in new book: Himelbloom, B.H., Oliveira, A.C.M. and Shetty, T.S. *Rapid methods for the identification of seafood micro-organisms*. Chpt. 19. In: Handbook of Seafood Quality, Safety and Health Applications, [Alasalvar](#), C., [Miyashita](#), K., [Shahidi](#), F. and [Wanasundara](#), U. (eds.), Wiley-Blackwell, ISBN: 978-1-4051-8070-2.

Public Service

Chuck Crapo provided technical assistance to seafood processors around the state, including:

- developing a pasteurization schedule for salmon caviar for a Juneau seafood processor,
- evaluating the safety of seafood and meat products for a Kenai processor to assist him in meeting DEC requirements,
- technical assistance to - a salmon salting operation in Bristol Bay, a processor setting up salmon/crab pickling process in Kodiak, and a processor developing crab cakes in Anchorage.

- producing test batches of smoked salmon with a SE Alaska processor interested in developing a semi-hot smoked product,
- analyzing samples for processors in Kenai, Bellingham, Kodiak, Petersburg and Bethel,
- responding to salmon questions to processors and marketers in Bethel, Seattle, Boston, New Orleans and Miami,
- responding to requests from the Alaska Seafood Marketing Institute on quality issues.

Alex Oliviera responded to a request by Haines processor, Dejon Delights, Ltd <http://www.dejondelights.com/> to determine %wps (% water phase salt) in eight of his smoked salmon samples. She reported the results electronically to Dejon Delights Ltd. owner, Scott Dejon. Alex also did a similar analysis of % water phase salt in nine smoked salmon samples (duplicated analysis / sample) for the Petersburg-based company, Northern Lights Smokeries <http://www.nlsmokeries.com> .

Alex concluded a study for Peter Pan Seafoods to chemically characterize salmon and herring oil samples from their processing plant in King Cove. The laboratory procedures conducted, in duplicate, for each of the samples were: fish oil clean-up by centrifugation, separation of impurities; analysis of upper layer: free fatty acids content; nitrogen content; anisidine value; peroxide value; lipid classes distribution; fatty acid profiles. A report was sent to Director of Quality Assurance, Hart Schwarzenbach.

Scott Smiley and Quentin Fong consulted with the Sun'aq Tribe about potential for aquaculture of sea cucumbers in Kodiak. Quentin Fong provided information to the Southeast Alaska Regional Dive Association about new product forms for sea cucumber strips in the Hong Kong market.



Quentin also continued to provide outreach to the Kodiak Hispanic community by partnering with Nancy Castro to put the "Introduction of Financial Investment", a workshop given in Spanish to the Hispanic community, on the web. They are working with Pam Foreman at KMXT to record the narration with help from Kodiak College to put the voice recording onto a PowerPoint for the Hispanic community in Alaska to use.

Professional Service

Quentin Fong served as peer reviewer for the journal *Fishery Research*. Alex Oliviera served as reviewer for the *Journal of Marine Ecology Progress Series*: Ms. No. 201008069, title "Fatty acids in the blubber of harp seals and in the lipids of their potential prey". Brian Himelbloom peer reviewed three manuscripts that had been submitted to the *Journal of Food Processing and Preservation*, *Journal of Aquatic Food Product Technology* and *Journal of Food Protection*. Kate Wynne reviewed a manuscript submitted for publication in *Marine Ecological Progress Series* entitled: "Prey selection by Southeast Alaskan humpback whales."

Alex is serving as Chair of the *Product Development and Ingredients Innovations Committee* for the 2011 Institute of Food Technologists (IFT) annual meeting, June 2011 in New Orleans <http://www.am-fe.ift.org/cms/?pid=1000881>. She is also serving as chair of the Graduate Student Competition of the

Aquatic Food Product Division at the same meeting as well as serving on the IFT Annual Meeting Scientific Program Advisory Committee.

Alex is also in her 3rd term as the Alaska representative for the Pacific Fisheries Technologists Association (3rd term). She is responsible for assembling the organizing committee of the 2012 PFT meeting to be held in AK. Chuck Crapo will serve as 2012 PFT President.

University Service

The faculty met with and presented an overview of the work at FITC to both UA Vice President, Dr. Dan Julius and gave a tour and presentation to UA President Patrick Gamble and UAA Chancellor Fran Ulmer.

Quentin Fong is chairing the hiring committee for the Kodiak MAP faculty position. This will be a general coastal MAP agent serving the Kodiak Island region and will be the first Kodiak-centric MAP agent since Hank Pennington retired 14 years ago.

Chuck Crapo is chairing the hiring committee for the Nome MAP faculty position. Chuck is also serving on the SFOS Dean's hiring committee and participated in the UAF Campus Wide Promotion and Tenure Committee meeting.

Alex Oliviera is serving for her second year on the UAF Faculty Senate sub-committee "Faculty Development, Assessment and Improvement." She is also serving as a member on the University of Alaska Fairbanks Pre-Tenure Review Committee.

Brian Himelbloom is representing SFOS as a member of the UAF Faculty Senate. Alex Oliviera serves as an alternate.